

OPTIMAL FREQUENCY OF VITAL SIGNS DURING THE FIRST HOUR OF THE POST ANESTHESIA RECOVERY PERIOD

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Introduction: There is no evidence to determine the frequency of monitoring of the patient's HR, RR, BP and SPO2 monitoring during the first hour after surgery. Protocols are institution based. The frequency ranges between five and fifteen minutes (American Society of PeriAnesthesia Nursing [ASPAN], 2015).

Problem: No research evidence can be identified that studies the optimal frequency of vital signs after surgery. This is a significant PACU nursing care issue related to cost, workflow and early identification of complications.

Purpose: What is a safe and efficient frequency for vital sign monitoring during the first hour of the post anesthesia recovery period.

Methodology: A two-group randomized controlled trial with repeated measures was done with adult elective surgery patients assigned to a 5-minute or 15-minute frequency. Critically ill patients were excluded.

Results: 68 participants were enrolled with 36 participants in the 15-minutes group. The sample consisted of 63% males, 78% African American and 83% of the participants received a general anesthesia. There were no significant differences between the two groups related to age, gender, race and type of anesthesia.

A comparison was done between the groups at 0, 15, 30, 45 and 60 minutes using T-test for mean group differences. No significant differences were found in SBP, DBP, MAP and HR at any time points. RR showed significant differences at the 0-minute measurement ($t=-2.6$, $df=56$, $p=.012$). RR was not significant at any other time.

A Repeated Variables ANOVA found no significant differences in variability between time points for any vital sign measured except for HR, which showed significant variation in the 15-minute group ($F=5.796(4)$ [$p<.01$, $p=.002$]). Data analysis was unable to proceed for SPO2 in the 5-minute group due to missing data.

Discussion: Both groups did not differ at baseline or throughout the first hour of monitoring in mean or variability related to blood pressure. Differences with the mean RR and HR variability may be explained by practice variations of anesthesia providers related to pain and fluctuations in patient status between sedated, awake and agitated post-operatively.

Oxygen saturation in the 5-minute group was unable to be analyzed but no significant differences in mean measurements was found. HR and SPO2 findings may not be clinically significant as they are continuously monitored.

Conclusion: There appears to be little benefit to 5-minute vital sign measurements in non-critical, hemodynamically stable PACU patients.

Implications for Nursing Practice: In today's cost conscious healthcare environment, we suggest 15-minute monitoring and documentation is safe in this patient population. However, we suggest that further nursing research is needed.

Reference

American Society of PeriAnesthesia Nurses. (2015). Clinical practice- Frequently asked questions. Retrieved September 25, 2015, from <http://www.aspan.org/ClinicalPractice/FAQs/tabid/14107/Default.aspx#25>